	Application No.	Applicant(s)
Notice of Allowability	10/617,485	JAEHNE ET AL.
	Examiner	Art Unit	
	Charles Chow	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *5/2/2006*.

2. ☒ The allowed claim(s) is/are *1-26*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☒ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

Detailed Action

1. This office action is for amendment received on 5/2/2006.

Allowable Subject Matter

2. The following is an examiner's statement of reasons for allowance:

Claims 1-26 are allowable over the prior art of record. The prior arts fail to teach

the allowable features, singly, particularly, or in combination.

Applicant has amended all independent claims 1, 13-15 with allowable structure

& features [as argued in the pages 10-11 of applicant amendment], to switch the

mode with the Mod function in accumulator 300 of the PLL, to provide different

prescaler factors from an accumulator, to control the generation of frequency,

wherein said accumulator repetitively update said accumulator value, to generate

mode switching having assigned different prescaler factor derived from the modulus

Mod function [applicant's Fig. 3-6, A+M mod N in accumulator], to improving the

frequency accuracy with modulus M, N, to reduce the spurious interference, noise,

caused by mode switching [abstract, 0012, 0015]. The prior arts fail to manipulating

the accumulator for the prescaler.

The dependent claims 2-12, 16-26 are also allowable due to their dependency

upon the independent claim and comprising additional claimed features associated

to the features of the independent claims.

The closest prior art **Olgaard (US 6,236,278 B1)** teaches a phase locked loop

PLL device [Fig. 6A] which comprises a prescaler 665 for dividing the frequency of

an output signal of the phase locked loop device by a prescaler factor by N, N+1 [

col. 7, lines 45-48],

the accumulator 670 & MOD 671 provides the control signal 654 to prescaler 665 [

col. 7, line 43 to col. 8, line 67] to prescaler 665. The overflow OVF 672 for

prolonging the current reference cycle by adding N+1 divide [col. 8, lines 20-67 &

table 1, table 2], but fails to teach the <u>switching of the mode of the PLL with different</u>

<u>prescaler factors from the accumulator wherein said accumulator repetitively update</u>

<u>said accumulator value, to generate mode switching having assigned different</u>

<u>prescaler factor</u> derived from the modulus Mod function.

Humphreys et al. (US 2002/0198,912 A1) teaches the accumulator 210 is

divided into three cascaded sections, 225-1/230-1 to 225-3/230-3, to produce

dividing sequences from 3 carry outputs C01-C03 [Fig. 2, paragraphs 0016-0019 &

0042], each section has a 3-bit structure [Fig. 4, paragraph 0032-0033; paragraph

0031-0039], but fails to teach the above allowable features of the mode switching

with the accumulated different prescaler factors.

Other prior arts in below were also considered,<u> but they fail to teach the above</u>

<u>allowable features,</u>

Han et al. (US 2003/0108,143 A1) teaches the hard coded 3-bit width delta-

sigma modulator in Fig. 6, 41 in Fig. 7 for providing modulus control to prescaler 31

in Fig. 7, paragraph 0061-0068], to reduce the spurious noise signal [0079].

Lee (US 2002/0025,778 A1) teaches a PLL 250 [Fig. 5] operated in a WLAN

system

[paragraphs 0041, 0044]. for tuning to transceiver to WLAN frequency using PLL

250.

Harpham (US 2001/0017572 A1) teaches an IC chip 13 of a PLL, Fig. 2, having

accumulators 31-32 [paragraphs 0026, 0043, 0054], to reduce the size of PLL for an

IC chip implementation.

Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments

on Statement of Reasons for Allowance."

Conclusion

3. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Charles Chow whose telephone number is (571) 272-

7889. The examiner can normally be reached on 8:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone

number for the organization where this application or proceeding is assigned is (571)

273-8300. Information regarding the status of an application may be obtained from

the Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR

only. For more information about the PAIR system, see http://pair-direct.uspto.gov.

Should you have questions on access to the Private PAIR system, contact the

Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charles Chow ᑕᑕ .

June, 5, 2006.

EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600